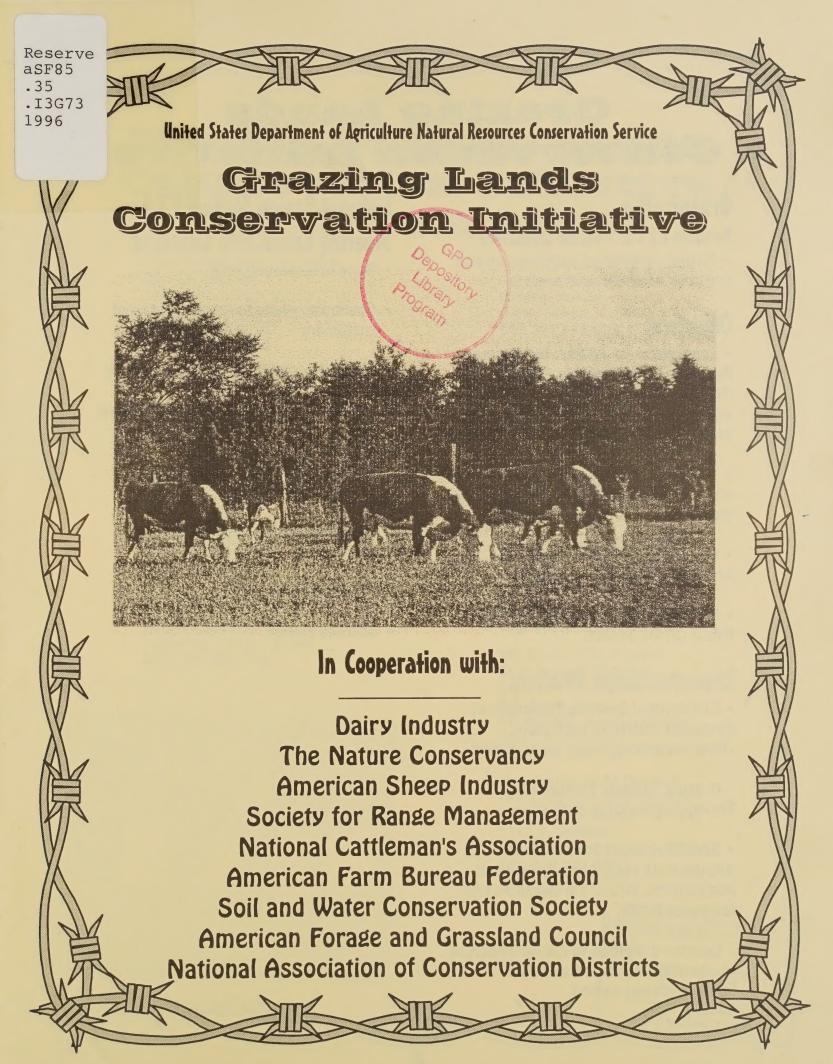
## **Historic, Archive Document**

Do not assume content reflects current scientific knowledge, policies, or practices.





## Grazing Lands Conservation Initiative

## Organization

## National G.L.C.I. Steering Committee

• Strong coalition of conservation and livestock production interests.

## **Objectives**

- Local effort to redirect the Natural Resources Conservation Service (NRCS) technical assistance to the 634 million acres of privately owned forage producing land within the United States.
- Technical assistance provided by staff trained in Grazing Systems Management technology.
- Grazing Lands support will be provided on a voluntary basis.
- Funding will be a line item in the NRCS CO-01 budget.

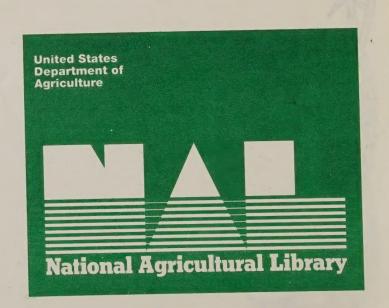
## Implementation Strategy

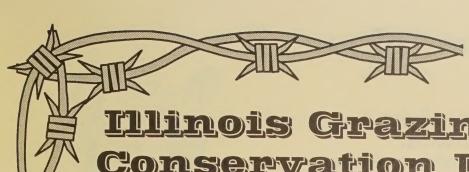
- One Grazing Systems Management Specialist staffed in each state. Note: exception in east coast region.
- Grazing Systems Management Training provided in each state.
- Special projects funded which demonstrate practices with regional implications, strong partnerships and leveraged funds.
- Develop a method to convey progress to constituency after a one-year implementation period.

# Midwest Region State G.L.C.I. Steering Committee Concerns

- State organization role
- Communications to internal/external customers
- Adequate staff in support of program
- Grazing Systems Management training cadre
- Grazing Lands Application module database development
- Special project to demonstrate practices
- Marketing strategy
- Success stories







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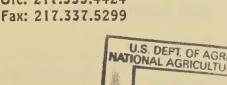
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- 2. Establishing realistic goals and objectives.
- 3. Plan the installation in several management steps.
- 4. Be FLEXIBLE.

## Functions of a Grazing Management System:

- 1. Meet nutritional needs of the kind, classes, and type of livestock.
- 2. Optimize forage yields, quality, and persistence.
- 3. Maintain environmental quality.
- 4. Make a profit.

## Designing an intensive Grazing System:

- 1. Determine livestock needs, such as how much pasture and how many animals with available pasture.
- 2. How many paddocks need to be constructed and of what size?
- 3. Keep livestock within 600 to 800 feet of a watering source.
- 4. Design individual paddocks as near to square as possible. (Avoid long, narrow paddocks).
- 5. Follow landscape lines for paddock fencing.
- 6. Paddocks should be a similar total grazing productivity, not necessarily similar in size.
- 7. Alley ways are for livestock NOT vehicles and equipment. (Keep them short, direct, and on the contours, avoid up and down steps).

## Grazing Periods

Spring Early Summer Late Summer Fall

## (Faster regrowth reduces paddock graze time and increases rotational moves).

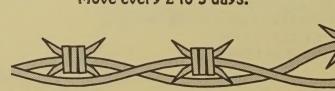
Graze 3 to 5 days then move. Graze 5 to 9 days then move. Graze 9 to 12 days then move. Graze 5 to 9 days then move.

(Grazing days are based on the initiation of new growth).

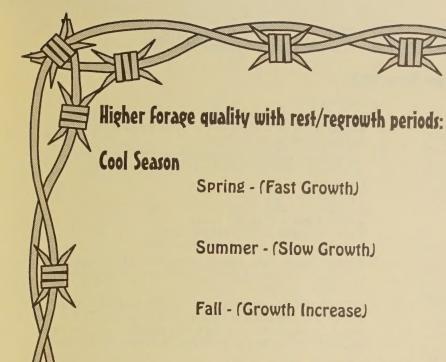
Optimum Animal Performance in an Intensive Grazing System with available forages to meet livestock needs:

Dairy Cattle Stocker Cattle Cow/Calf

Move 1 to 2 times per day. Move every 1 to 2 days. Move every 2 to 5 days.







April to June 15th.

Rest 14 to 16 days after grazing.

June 15th to September 10th.

Rest 30 to 40 days.

September 10th to December.

Rest 20 to 30 days.

Legumes: Throughout the Season - 24 to 32 days rest.

Warm Season

Average growth conditions

Slow growth (cool/cloudy days)

Adverse weather (drought)

Rest 21 to 28 days.

Rest 35 to 45 days.

Rest 45 to 60 days.

Begin grazing first paddock with 3 to 4 inches forage height (6 to 12 inches is optimum).

Water Requirements:

Dairy Cows 15 gallons/day/head.
Cows 25 gallons/day/head.
Feeder Calves 10 gallons/day/head.

For additional assistance, contact your local USDA Natural Resources Conservation Service office.

The above information was compiled by Art Friederich from materials provided by the two grazing schools in Missouri.

## Cool Season Grasses

## Growing Orchardgrass

## Primary Use

Orchardgrass (Dactylis glomerata) is used primarily as a hay or pasture crop and in combination with various legumes. It is a highly productive grass with a good production distribution throughout the year when maintained under high fertility levels. As high levels of nitrogen (without legumes) orchardgrass is among the most productive cool-season grasses. Orchardgrass is more tolerant of heat and drought than perennial ryegrass, timothy, or Kentucky bluegrass but less so than reed canarygrass and tall fescue.

#### Management

Highest yields of good quality forage are obtained when orchardgrass hay is cut at the boot stage. Delaying harvest an additional two weeks will decrease aftermath harvest by one-fourth in addition to reducing the quality of hay cut at a late stage of maturity. Orchardgrass stands become thin and clumpy when first growth is cut late. However, stand longevity is not adversely affected by late cutting. Regrowth of orchardgrass depends upon photosynthetic activity and carbohydrate reserves. When root reserves are high, close cutting or grazing does not adversely affect the stand. However, when reserves are low, close cutting is a severe management practice. Thus, cutting several times at ground level or continuous close grazing almost always results in serious stand injury. Do not graze shorter than four inches in average height. Graze off fall growth by the end of October.

#### Site

Best growth will occur between pH 5.5 and 6.5 as orchardgrass is less tolerant of soil acidity than many other pasture grasses. If used without a legume, orchardgrass is very responsive to nitrogen fertilization. Yield responses to phosphorus and potassium fertilization have also been demonstrated for orchardgrass.

#### Establishment

1. Seeding date:

February 15th to April 30th August 15th to September 14th

#### 2. Seeding rate:

6 Pounds per acre in mixtures on prepared seedbeds 8 pounds per acre alone in prepared seedbeds 12 pounds per acre no-tilled

3. Companion species and seeding rate: Seed only one of the following species with orchardgrass at the rate recommended:

8 pounds per acre of alfalfa

8 pounds per acre of annual lespedeza

8 pounds per acre of red clover

- 5 pounds per acre of birdsfoot trefoil
- I pound per acre of Ladino clover (white)
- 4. Seeding depth: Seed should be planted 1/2 inch deep. If clover is mixed with orchardgrass, a planting depth of 1/4 inch is sufficient.
- 5. Soil fertility: Orchardgrass does best in soils of high fertility. It will persist on shallow, relatively infertile soil. Soil requirements are less exacting than either timothy or smooth bromegrass. Apply lime and fertilizer according to soil test.

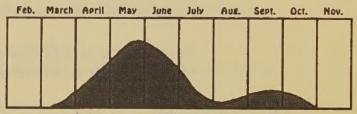
## Strong Points

Orchardgrass is shade tolerant, very palatable and does well with legumes.

#### Weak Points

Orchardgrass will stand less dry weather than reed canarygrass and tall fescue. It is not desirable for winter stockpiling.

## Average Growth Curve



Orchardgrass is an excellent pasture for yearlings

## Growing Tall Fescue

#### Primary Use

Tall fescue (Festuca arundinacea) is a deep-rooted perennial. It is a bunchgrass. However, it has underground stems producing an even sod if grazed or kept mowed. Tall fescue is used extensively for hay and pasture. It is tolerant to continuous close grazing.

#### Management

Tall fescue should be harvested for hay as soon as the first seed head appears (boot stage). Close grazing of well established stands is recommended. For best production and longevity tall fescue should not be grazed closer than two inches. Legumes can only be maintained in tall fescue pasture by rotational grazing.

#### Site

Adapted to a wide variety of soils from poorly drained to droughty.

## Establishment

1. Seeding date: February 15th to April 30th
August 15th to September 14th

## 2. Seeding rate:

6 Pounds per acre in mixtures on prepared seedbeds 8 pounds per acre alone in prepared seedbeds

12 pounds per acre no-tilled

- 3. Companion species and seeding rate: Seed only one of the following species with tall fescue at the rate recommended: 10 pounds per acre of crownvetch
  - 8 pounds per acre of lespedeza (10 lbs. hulled)
  - 8 pounds per acre of alfalfa
  - 8 pounds per acre of red clover
  - 5 pounds per acre of alsike clover

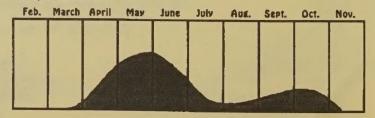
- 5 pounds per acre of big trefoil
  - 5 pounds per acre of birdsfoot trefoil
  - I pound per acre of Ladino clover (white)
  - 4. Seeding depth: 1/4 inch
  - Soil fertility: Tall fescue does best in soils of high fertility. All lime and fertilizer applications should be made based on a current soil test.

#### Strong Points

Tall fescue is adapted to many soil types. The quality of tall fescue is best in early spring or as stockpiled after frost in the fall. Tall fescue can withstand intensive grazing.

#### Weak Points

The quality of tall fescue is poorest during the midsummer months. Poor annual performance is caused by a fungal endophyte in tall fescue. The fungus appears to be seed transmitted only. It lives in plant stems, leaves and seeds. The fungus likely stimulates tall fescue to produce a substance which is toxic to livestock.



## Cool Season Grasses

## Growing Smooth Bromegrass

General Plant Description

Smooth Bromegrass (Bromus inermis) is a long-lived perennial, sod-forming, cool season grass. It spreads underground by short rhizomes and is readily propagated by seed. It grows to a height of 3 to 4 feet.

Site

Best adapted to fertile, well drained silt loam or clay loam soil.

Establishment

1. Seeding date: Spring — February 15th to April 30th Fall — August 15th to September 14th

2. Seeding rate:

6 pounds Pure Live Seed per acre in mixtures

8 pounds Pure Live Seed per acre alone in prepared seedbeds

12 pounds Pure Live Seed no-tilled

3. Companion species and seeding rate: Seed only one of the following species with smooth bromegrass at the rate recommended:

8 pounds per acre of alfalfa

8 pounds per acre of red clover

4. Seeding depth: 1/4 to 1/2 inch

5. Soil fertility: Fertilize and lime according to soil test.

Management

Smooth bromegrass requires careful management. If grazed when stems are jointing, it will stop growth until growth buds develop from the crown or rhizomes. Jointing usually occurs between May 1st and May 10th.

Turn in height 8 inches and graze down to no lower than 4 inches

average height

For hay, cut at the boot stage for first cutting, and after sprouts appear for succeeding cutting.

If production drops off due to "sod bound," use a chisel plow to

renovate the pasture.

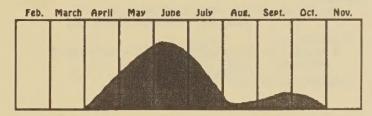
Strong Points

Smooth bromegrass is very winter hardy and very palatable forage. Excellent for hay production.

Weak Points

Requires heavy application of nitrogen for good production. Makes 90 percent of total production in a 70-day period.

## Average Growth Curve



## Growing Timothy

Primary Use

Timothy (Phleum pratense) is grown primarily for hay. Timothy is short-lived under grazing. Timothy hay is highly valued as a desirable and palatable horse feed. As with most grasses, it is low in feed value if harvested at a late stage of maturity.

Management

Persistence under hay management can be increased by proper

fertility and cutting management.

Timothy or timothy-legume mixture should be harvested at an early stage of maturity (boot stage) for highest hay quality. An early cut hay will provide a much higher percent of digestible protein and metabolizable energy than late cut hay. However, greater quantities of dry matter are produced in later harvests. A suitable compromise between quality and quantity is to harvest the timothy shortly after emergence of the seed head from the leaf sheath (boot stage).

In timothy-legume mixtures, timothy uses some of the nitrogen fixed by the legume, and this reduces the need for applied nitrogen fertilizer. Application of fertilizer nitrogen will favor the growth of timothy over that of the legume, resulting in a decrease in the percent legume in the stand. However, an application of 30 to 55 pounds of nitrogen per acre in late February or early March will stimulate the growth of the timothy and provide additional early growth and forage.

Site

Timothy is well suited for use on well-drained, but moist, clay or loam soil. On well-drained soil, alfalfa will do well with timothy, but alfalfa alone will be more productive. Red clover also can be used with timothy, but this mixture has a stand life of only three years. In wetter areas, birdsfoot or big trefoil are suitable legumes for use with timothy. Optimum pH 5.5-7.0.

Establishment

1. Seeding date: February 15th to April 30th
August 15th to September 14th

2. Seeding rate:

5 pounds per acre in mixtures on prepared seedbeds 8 pounds per acre alone in prepared seedbeds 10 pounds per acre no-tilled

Companion species and seeding rate: Seed only one of the following species with timothy at the rate recommended:

8 pounds per acre of alfalfa

8 pounds per acre of annual lespedeza (10 lbs. hulled)

8 pounds per acre of red clover

5 pounds per acre of birdsfoot trefoil

5 pounds per acre of alsike clover

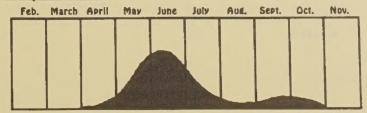
- I pound per acre of Ladino clover (white)
- 4. Seeding depth: Timothy seed should be planted less than 1/4 inch deep in moist soil.
- 5. Soil fertility: A PH of 5.5 to 7.0 is acceptable for timothy. Apply lime and fertilizer according to soil test recommendations.

Strong Points

Timothy reaches hay stage later than most other cool season grasses.

Weak Points

Timothy is short-lived, and has little summer and fall growth.



## Warm Season Grasses

## Growing Big Bluestem

Primary Use

Big bluestem (Andropogon geradi) is a perennial warm season sod forming grass used for pasture and hay. It produces a deep extensive root system with short rhizomes. The majority of its growth occurs during July. Grazing should occur from June 15th until September 15th. Quality forage is produced during the hot summer months. Big bluestem is highly palatable to all classes of livestock.

Management

Big bluestem should be cut for hay in the early boot stage. Grazing should be deferred until plant height reaches 18 inches. Do not graze lower than 10 inches in height. Terminate grazing by September 15th. Attain a 12 inch fall height before frost.

Site

Big bluestem is adapted to deep soils from excessively to somewhat poorly drained. Optimum pH 5.0-7.0.

Establishment

1. Seeding date: May 1st to June 14th

November 15th to February 14th

2. Seeding rate:

6 Pounds Pure Live Seed per acre alone in prepared seedbeds

3. Seed depth: 1/4 inch

- 4. Soil fertility: Do not use nitrogen during the establishment year. Apply lime and fertilizer according to soil test recommendations:
- 5. Seedbed preparation: A prepared seedbed should be firmed with a corrugated roller before seeding to prevent deep planting.
- Method of seeding: Plant using a rangeland drill equipped with depth bands and press wheels; or use a gravity flow fertilizer spreader followed with the corrugated roller.

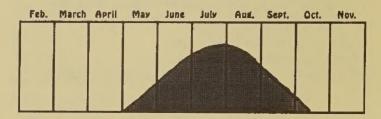
Strong Points

Big bluestem make excellent growth during July and August.

Weak Points

Establishment takes from two to three years.

#### Average Growth Curve



## Growing Little Bluestem

Primary Use

Little bluestem (Andropogon scoparius) is a perennial warm season bunch grass for pasture and hay. It is intermediate in height.

Management

Little bluestem should be cut for hay in the early boot stage. Grazing should be deferred until plant height reaches 12 inches. Do not graze lower than 6 inches in plant height. Terminate grazing by September 15th. Attain a 6 inch fall height before frost.

Site

Little bluestem grows on a wide variety of soils but does best on calcareous soils derived from limestone. It can be grown on shallow, gravelly, droughty soils. Optimum pH 6.0+.

Establishment

1. Seeding date: May 1st to June 14th

November 14th to February 14th

- 2. Seeding rate:
  - 8 pounds Pure Live Seed per acre alone in prepared seedbeds
- 3. Seed depth: Seed at 1/4 inch depth.
- Soil fertility: Do not use nitrogen during the establishment year. Apply lime and fertilizer according to soil test recommendations.

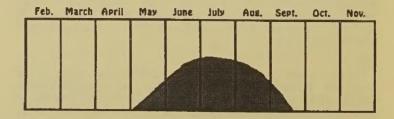
- Seedbed preparation: A prepared seedbed should be firmed with a corrugated roller before seeding to prevent deep planting.
- Method of seeding: Plant using a rangeland drill equipped with depth bands and press wheels; or use a gravity flow fertilizer spreader followed with the corrugated roller.

Strong Points

Little bluestem is more drought resistant than big bluestem, indiangrass, or switchgrass.

Weak Points

Under some conditions little bluestem is low in palatability.



## Warm Season Grasses

## Growing Switchgrass

## Primary Use

Switchgrass (Panicum virgatum) is a perennial warm season sod forming grass used for pasture and hay. It produces a deep extensive root system with short rhizomes. It is preferred by livestock early in the growing season. Grazing should occur from May 15th until September 15th.

## Management

Switchgrass should be cut for hay in the early boot stage. Grazing should be deferred until plant height reaches 18 inches. Do not graze lower than 10 inches in plant height. Terminate grazing by September 15th. Attain a 12 inch fall height before frost.

#### Site

Adapted to a wide range of soils with best growth on fertile moist soil. However, it will produce good growth on droughty infertile eroded soils. Optimum pH 5.0-7.0.

#### Establishment

1. Seeding date: May 1st to June 14th

November 15th to February 14th

2. Seeding rate:

6 pounds Pure Live Seed per acre alone in prepared seedbeds

- 3. Seed depth: Seed at 1/4 inch depth.
- 4. Soil fertility: Do not use nitrogen during the establishment year. Apply lime and fertilizer according to soil test recommendations.
- 5. Seedbed preparation: A prepared seedbed should be firmed with a corrugated roller before seeding to prevent deep planting.
- 6. Method of seeding: Plant using a rangeland drill equipped with depth bands and press wheels; or use a gravity flow fertilizer spreader followed with the corrugated roller.

## Strong Points

The easiest of all perennial warm season grasses to establish.

#### Weak Point

Switchgrass begins growth nearly as early as some cool season perennial grasses.

## Average Growth Curve



## Growing Indiangrass

#### Primary Use

Indiangrass (Sorghastrum mutans) is a perennial warm season sod forming grass used for pasture and hay. It produces a deep extensive root system with short rhizomes. It produces good quality forage during the hot summer months when cool season grass production is low. Grazing should occur from July 1st until September 15th.

#### Management

Indiangrass should be cut for hay in the early boot stage. Grazing should be deferred until plant height reaches 18 inches. Do not graze lower than 10 inches in plant height. Terminate grazing by September 15th. Attain a 12 inch fall height before frost.

#### Site

Indiangrass is adapted to deep soils except extremely wet soils. Optimum pH 5.0-7.0.

#### Establishment

1. Seeding date: May 1st to June 14th

November 15th to February 14th

2. Seeding rate:

6 Pounds Pure Live Seed per acre alone in prepared seedbeds

- 3. Seed depth: Seed at 1/4 inch depth.
- 4. Soil fertility: Do not use nitrogen during the establishment year. Apply lime and fertilizer according to soil test recommendations.

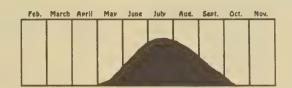
- Seedbed preparation: A prepared seedbed should be firmed with a corrugated roller before seeding to prevent deep planting.
- 6. Method of seeding: Plant using a rangeland drill equipped with depth bands and press wheels; or use a gravity flow fertilizer spreader followed with the corrugated roller.

#### Strong Points

Indiangrass makes excellent growth during August. It is very palatable.

#### **Weak Points**

Establishment takes from two to three years. Over grazing will decrease stands.



## Grazing System Layout & Design

(\$ Dollar Amounts Shown as Example Only)

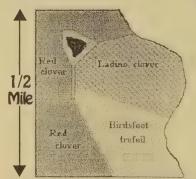
## Figure 1: Resource inventory of the basic Grazing Unit.

140 acres of mixed cool season grasses

- 1/2 Mile
- 70% ground cover
- Moderate vigor
- · Very little legume
- Water source is single pond in northwest corner
- Adequate perimeter fence
- Soil sample based on landscape position

## Figure 2: Taking the first steps toward implementing Management-Intensive Grazing.

140 acres of mixed cool season grasses and legumes



Subdivided for basic control of

Management Moves

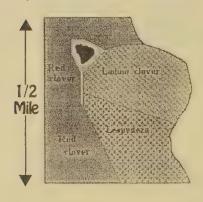
grazing

2. Fertilize according

to soil tests

3. Interseed appropriate legumes

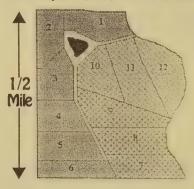
Figure 3: A simple 4 paddock rotational grazing system.



140 acres of mixed cool season grasses and legumes

- Basic rotational grazing system
- Subdivision fencing 6,846' @ \$4.49/acre

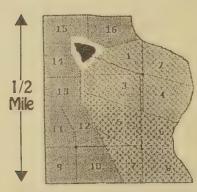
Figure 4: A twelve paddock rotational grazing system utilizing alleyway access to water.



140 acres of mixed cool season grasses and legumes

- Grazing system without additional water development
- Subdivision fencing 15.967' @ \$10.44/acre

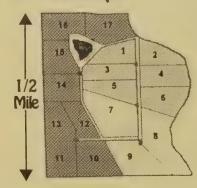
Figure 5: A 16 paddock rotational grazing system with additional water development.



140 acres of mixed cool season grasses and legumes

- Grazing system with additional water development
- Subdivision fencing 15,743' @ \$12.09/acre

Figure 6: A 16 paddock rotational grazing system with additional water development and alleyway system for livestock moving.



140 acres of mixed cool season grasses and legumes

- Grazing system with additional water development
- Subdivision fencing 18.744 @ \$16.06/acre

Water development

Power \$ 700 Pump System 1,200 Water lines 800

 $\frac{$2.700}{140}$  Acre = \$19.29/acre

Water development Power \$ 700

Pump System 1,200 Water lines 1,400

\$3,300/140 Acre = \$23.50/acre

United States Department of Agriculture, Natural Resources Conservation Service (NRCS)

## Illinois Pastureland

by Field Operations Districts
Total Pastureland Acres — 2,763,700

District #1 — 791,600 Acres (29%)

District #3 — 413,400 Acres (15%)

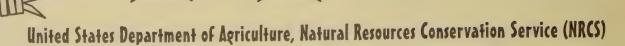
District #2 — 612,000 Acres (22%)

District #4 — 946,700 Acres (34%)

Data Based on USDA, Natural Resources Conservation Service 1992 Natural Resource Inventory (NRI)



Criteria for pastureland as per the 1992 NRI data — land used primarily for the production of introduced or native forage plants for livestock. Pastureland may consist of a single species in a pure stand, grass mixture, or a grass-forbs-legume mixture, regardless of whether or not it is being grazed by livestock.



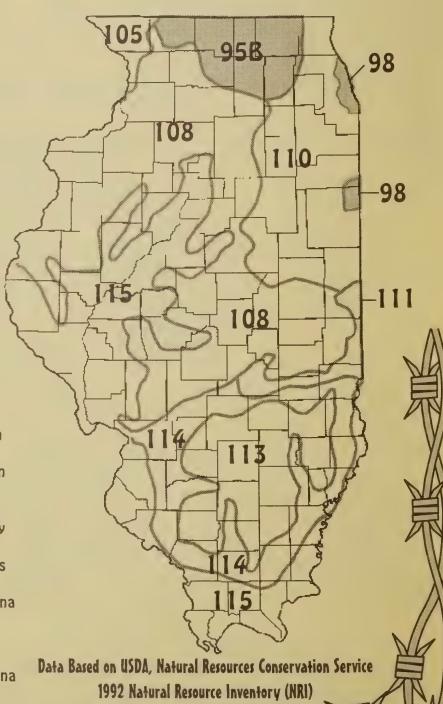
# Tilinois Pastureland by Major Land Resource Area Total Pastureland Acres — 2,763,700

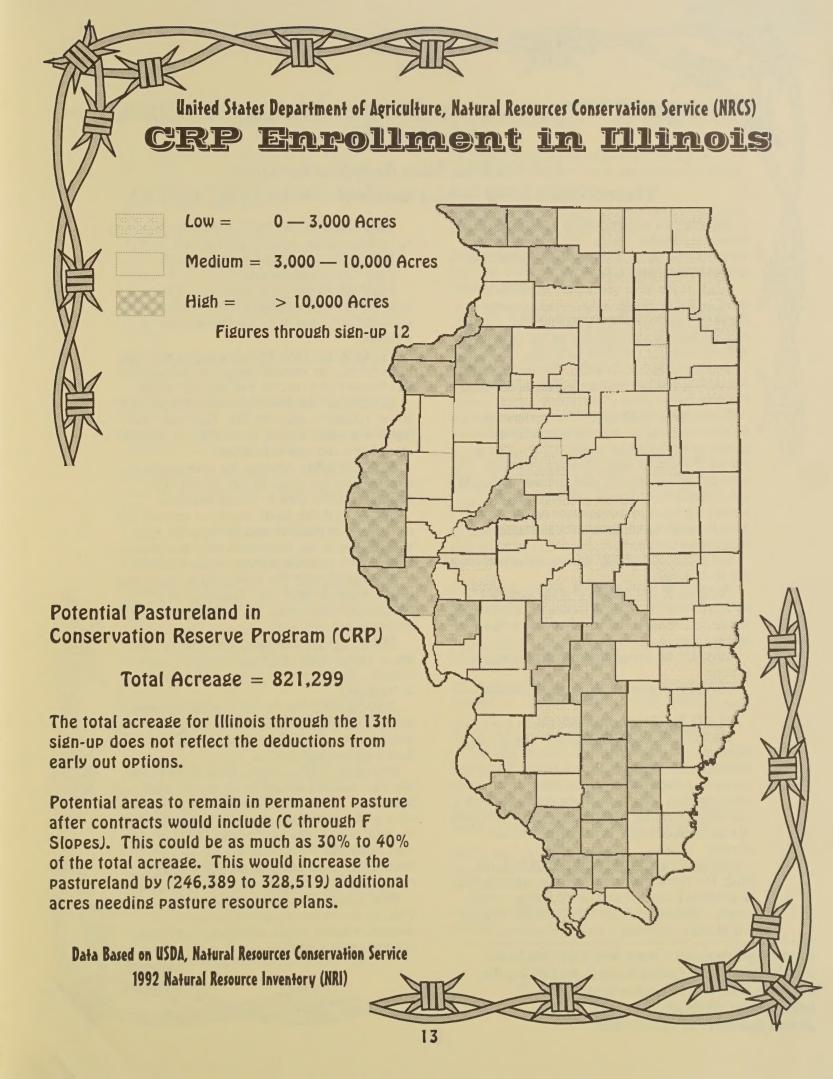
95B —	122,700 Acres —	4%
98 —	0 Acres —	0%
105 —	87,300 Acres —	3%
108 —	658,100 Acres —	24%
110 —	187,000 Acres —	7%
111 —	34,200 Acres —	1%
113 —	293,100 Acres —	11%
114 —	292,000 Acres —	11%
115	1 089 300 Acres	79%

Lake states fruit, truck and dairy
95B— Southern Wisconsin and
Northern Illinois drift plain
98 — Southern Michigan and
Northern Indiana drift plain

## Central feed grain and livestock

- 105 Northern Mississippi Valley loess hills
- 108 Illinois and Iowa deep loess and drift
- 110 Northern Illinois and Indiana heavy till plain
- 111 Indiana and Ohio till plain
- 113 Central claypan areas
- 114 Southern Illinois and Indiana thin loess and till plain
- 115 Central Mississippi valley wooded slopes







## Grass Farmers Sure Talk Funny — A Grazier's Glossary

From Allan Nation, Editor; *The Stockman Grass Farmer*,
"A Resource Guide to Getting Started in Management - Intensive Grazing," page 7. n.d.

BREAKS: an apportionment of a paddock with temporary electric fence. The moving of the forward wire would create a "fresh break" of grass for the animals.

CELL: A grouping of paddock subdivisions used with a particular set or class of animals. During droughts, several cells and their animals may be merged and operated as one very large cell and herd for rationing purposes.

CONTINUOUS STOCKING: Allowing animals access to an entire pasture without paddock rotation.

COMPENSATORY GAIN: The rapid weight gain experienced by animals when allowed access to plentiful high quality forage after a period of rationed feed. Animals that are wintered at low rates of gain and are allowed to compensate in the spring frequently weigh almost the same by midsummer as those managed through the winter at a high rate of gain. Also known as "pop."

DEFERRED GRAZING: Resting a paddock from use by livestock.

FLOGGING: The grazing of a paddock to a very low residual. This is frequently done in the winter to stimulate clover growth the following spring.

GRAZER: An animal that gathers its food by grazing.

GRAZIER: A human who manages grazing animals.

HEAUY METAL: Large machinery.

LEADER-FOLLOWER GRAZING: The use of a paddock by a high production class of animal followed by a lower production class. For example, lactating dairy cattle followed by replacements. This type of grazing allows both a high level of animal performance and a high level of pasture utilization. Also called first-last grazing.

MANAGEMENT-INTENSIVE GRAZING OR MIG: The thoughtful use of grazing manipulation to produce a desired agronomic and/or animal result. May include both rotational and continuous stocking depending upon the season.

MOB GRAZING: A group of animals. This term is used to indicate a high stock density.

PADDOCK: A subdivision of a pasture.

POP: Compensatory gain.

POPPING PADDOCKS: Paddocks of high quality grass and legumes used to maximize compensatory gain in animals before sale or slaughter.

<u>PUGGING OR BOGGING:</u> The breaking of the sod's surface by animals' hooves in wet weather. Can be used as a tool for planting new seeds.

RESIDUAL: The desired amount of grass to be left in a paddock after grazing. Generally, the higher the grass residue, the higher the animals' rate of gain and milk production.

SELF FEEDING: Allowing the animals to eat directly from the silage face by means of a rationing electric wire or sliding headgate.

SET-STOCKING: Small groups of animals are placed in each paddock and not rotated. Frequently used in the spring with beef and sheep to keep rapidly growing pastures under control.

STANDING HAY: The deferment of seasonally excess grass for later use. Standing hay is traditionally dead grass. Living hay is the same technique but with green, growing grass.

STOCKPILING: The defement of pasture for use at a later time. Traditionally this is in the autumn. Also known as "autumn saved pasture" or "foggage."

STRIPGRAZE: The use of a frequently moved temporary fence to subdivide a paddock into very small breaks. Most often used to ration grass during winter or droughts.

VALUE OF GAIN: The net value of gain after the price rollback of light to heavy cattle has been deducted. To find the net value of gain, the total price of the purchased animal is subtracted from the total price of the sold animal. This price is then divided by the number of cwts. of gain. Profitability is governed by the value of gain rather than the selling price per pound of cattle.

WINTERGRAZE: Grazing in the winter season. This can be on autumn saved pasture or on specially planted winter annuals such as cereal rye and annual ryegrass.

For a more complete glossary of grazier terms, consult Grass Farmers or Quality Pasture, How to Create It, Manage It, and Profit from It by Allan Nation, Editor, *The Stockman Grass Farmer*, P.O. Box 9607, Jackson, Mississippi 39286-9607. For a free copy of *The Stockman Grass Farmer*, call 1-800-748-9808.







## Common Fencing Verms

AMPERAGE: The strength of an electric current, measured in amperes (amps). Amps give a fence charger its power to overcome load and control animals.

BATTERY-POWERED UNIT: An electric fence charger powered by a battery, usually 6-volt. Used in remote areas, generally not as powerful as 110-volt fence chargers.

BRACE: A support structure used at ends, bends in-line pulls, and corners of permanent fences.

**COMPLEX LOAD:** The combination of fence load and fence length.

CONTROLLED GRAZING: The management of forage with grazing animals. Usually involves dividing pastures into many smaller paddocks with electric fencing.

ENERGIZER: New Zealand term for fence charger. Usually denotes a low-impedance unit.

FENCE CHARGER/CONTROLLER: Electrical device that emits a high-voltage charge along a fence wire to keep animals away.

GROUND SYSTEM: The path back to the fence charger, either the soil or wire in the fence.

GROUND ROD: Metal stake driven in the ground to receive electricity from the fence charger.

GROUND ROD CLAMP: Device used to connect ground wire from fence charger to ground rods.

INSULATED CABLE: Plastic coated wire (rated at 20,000 volts or higher) used to make electric fence connections.

INSULATOR: Anything used to keep an electric fence wire from touching something that would short (ground) out the fence.

JOULE: A measure of energy used to rate low-impedance fence charges. Equal to one watt for one second.

LOAD: Anything that touches a hot wire, drawing current from it. Usually refers to amount of vegetation on the fence.

LOW-IMPEDANCE: Used to describe a high power fence charger which can overcome heavy loads on an electric fence.

NEW ZEALAND FENCE: Another name for high-tensile permanent electric fence.

OFFSET BRACKET: A plastic or metal device that holds an electric fence wire insulator away from a fence.

ON-TIME/PULSE WIDTH: The duration of the shock pulse, usually measured in microseconds. The on-time should be long enough to cause an intense but safe shock.

PERMANENT FENCE: A multi-strand, well-braced fence. Traditionally constructed of barbed or net wire. Now built with high-tensile electrified smooth wire.

<u>POLY TAPE:</u> Highly visible portable electric fence tape consisting of plastic and metal strands. Used to train livestock and control horses.

<u>POLY WIRE:</u> Highly visible electric fence wire consisting of plastic and metal strands. Used for portable fences.

<u>PORTABLE FENCE</u>: Electric fence that can be easily moved. Often referred to as a temporary fence.

<u>PORTA REEL:</u> Devise used to roll up and pay out portable electric fence wire.

<u>RE-BAR POST</u>: Electric fence post made of reinforcing steel rod with a plastic insulator.

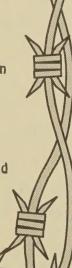
SHORT: A fault in the fence that grounds the fence, causing it to lose power.

TREAD-IN-POST: Plastic stake with molded-on clips. Used for portable electric fence.

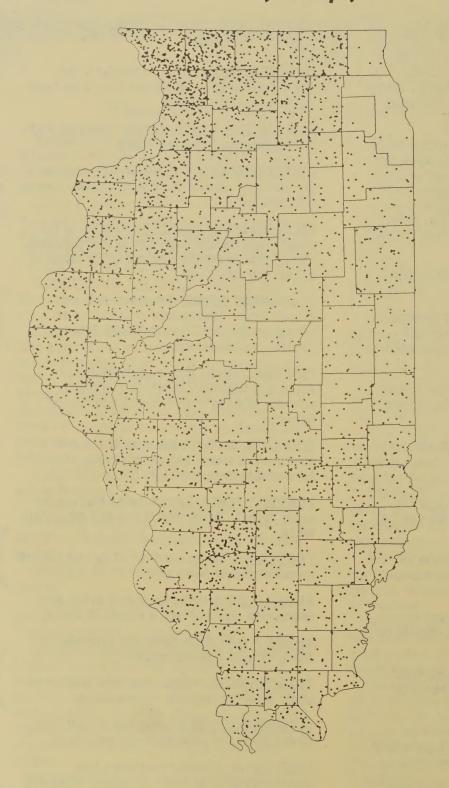
<u>ULTRAVIOLET LIGHT</u>: Spectrum of light that causes plastic to become brittle and break.

<u>VOLT</u>: Unit of electrical pressure which determines level of power on fence. Measured in kilovolts (1,000 volts).

**<u>VOLT METER:</u>** A device used to measure voltage.



# Illinois All Cattle Invent<sup>1022398654</sup> January 1, 1995



1 Dot = 500

## Top Ten Counties

COUNTY	(HEAD)
Jo Daviess	84,300
Stephenson	75,700
Carroll	66,700
Henry	55,600
Ogle	53,100
Whiteside	48,900
Clinton	48,300
Adams	43,300
De Kalb	41,600
McHenry	38,500

This map and data was taken from the "Illinois Agricultural Statistics - 1995" p 91.

USDA United States Department of Agriculture
Natural Resources Conservation Service

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